CANADA

NATIONAL ENERGY BOARD

Reasons for Decision

In the Matter of

Canadian Hunter Exploration Ltd.

Application Pursuant to Part VI of the National Energy Board Act for a Licence to Export Natural Gas

GH-2-88

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Recital and Appearances

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF an application by Canadian Hunter Exploration Ltd. (as agent for Noranda Inc.) pursuant to Part VI of the National Energy Board Act for a licence authorizing the export of natural gas, filed with the Board under File No. 5104-C87.

HEARD at Calgary, Alberta on 3 August 1988.

BEFORE:

J.-G. Fredette	Presiding Member
J.R. Jenkins	Member
R.B. Horner, Q.C.	Member

APPEARANCES:

L.E. Smith J.E.E. Lowe	Canadian Hunter Exploration Ltd.
P.L. Fournier	Canadian Petroleum Association
M. Putnam	Alberta and Southern Gas Co. Ltd.
G. Dann	The Consumers' Gas Company Ltd.
D. Bews	Mobil Oil Canada
K.L. Meyer	Pan-Alberta Gas Ltd.
R.B. Brander	Poco Petroleums Ltd.
N.W. Boutillier	ProGas Limited
J.D. Murphy	Union Gas Limited
G. Toews D. McLean	Western Gas Marketing Limited
L.L. Manning	Alberta Petroleum Marketing Commission
J. Minor C. McCue	Minister of Energy for Ontario
D. Bursey	National Energy Board

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Chapter 1
The Application

By its application dated 5 May 1988, Canadian Hunter Exploration Ltd. (Canadian Hunter), as agent for Noranda Inc., sought Board approval of a licence to export natural gas at Niagara Falls and Iroquois[1], Ontario. The United States customer, G.A.S. Orange Development Inc. (G.A.S. Orange), will use the gas to fuel a new cogeneration facility to be constructed in Syracuse, New York. The facility will produce electricity to be sold to Niagara Mohawk Power Corp. and steam to be sold to various institutional customers in the surrounding area.

In Canada, the gas to be exported will be transported by NOVA Corporation of Alberta (NOVA) and TransCanada PipeLines Limited (TransCanada). In the United States the gas will be transported to Syracuse, New York via the pipeline systems of Tennessee Gas Pipeline Company (Tennessee) and/or Iroquois Gas Transmission Company (Iroquois). A 10.7 km. pipeline will be constructed from the interconnection of Tennessee's pipeline to the cogeneration facility. The contractual arrangements between the buyer and the seller allow for the provision of interruptible transportation in both the United States and Canada in the event that firm transportation is not available.

Canadian Hunter applied for a licence with the following terms and conditions:

Term	- 1 November 1990 to 31 October 2010 (20 years)[2]
Export Points	- Niagara Falls and Iroquois, Ontario and any other exit points agreed to by the parties and approved by the Board.
Maximum Daily Quantity	- 845 000 cubic metres (30 MMcf)
Maximum Annual Quantity	- 254 million cubic metres (9 Bcf)
Maximum Term Quantity	- 3 381 million cubic metres (120 Bcf)

1. Canadian Hunter requested the addition of the Iroquois, Ontario exit point as part of its opening statement at the public hearing.

2. Canadian Hunter's opening statement also requested a 4 month advancement in the commencement and expiry dates of the licence.

Chapter 2

Reasons for Decision

2.1 Market-Based Procedure

In satisfying itself that the gas to be exported was surplus to the reasonably foreseeable Canadian requirements, the Board used its market-based procedure as established in the July 1987 Reasons for Decision In the Matter of *Review of Natural Gas Surplus Determination Procedures*. Under this process the Board considers the following: complaints, if any, under the complaints procedure; an export impact assessment filed by the applicant; and other factors relating to the public interest including, inter alia, gas reserves, deliverability, contracts, pipeline facilities, markets, and net benefits to Canada.

2.1.1 Complaints Procedure

In setting down the Canadian Hunter application for hearing, the Board, in paragraph 3 of its Hearing Order No. GH-2-88, reminded interested parties of the existence of a complaints procedure. No party to the proceeding filed a complaint although Union Gas Limited (Union) did propose that the still new Market-Based Procedure be refined to include a better and earlier flow of information and to require an applicant to demonstrate, in its application, that efforts had been made in approaching and attracting potential domestic purchasers. While it is beyond the scope of these proceedings to decide on the merits of Union's proposal, the Board will take note of the proposal for any future review of the Market-Based Procedure.

2.1.2 Export Impact Assessment

The Export Impact Assessment (EIA) helps the Board to determine whether a proposed export is likely to cause Canadians difficulty in meeting their future energy requirements at fair market prices. The Applicant is required to assess the ability of Canadian natural gas producers to meet Canadian and export requirements for gas; the impact of the proposed export on domestic natural gas prices; and the ability of Canadian consumers to adjust, if necessary, their energy consumption patterns without substantial difficulty.

The burden of proof is on the Applicant to demonstrate to the Board that the proposed export will not likely lead to any major difficulty for domestic consumers in meeting their energy requirements at prevailing market prices.

The proposed annual export volumes in this application are equivalent to less than one-half of one percent of Canada's current annual domestic and export requirements for natural gas. The Applicant argued in its EIA that the volumes applied for were too small to materially affect the ability of Canadian natural gas producers to meet Canadian and export requirements for natural gas. The Board concurs that the volumes are small relative to Canada's supply and requirements and should have little impact on Canadian production, consumption and prices of natural gas.

2.1.3 Public Interest Determination

As part of its Market-Based Procedure, the Board examines a number of other factors that it considers to be relevant to its determination of the Canadian public interest.

2.1.3.1 Contracts

In support of its application, Canadian Hunter filed the following executed agreements:

(a) an 8 December 1987 gas sales agreement between Gas Alternative Systems, Inc. (Gas Alternative) and Noranda Inc. which provides for the sale of the proposed export quantities during the period 1 November 1990 through 31 October 2010;

(b) a 19 September 1986 electrical sales agreement between Gas Alternative Systems, Inc. and Niagara Mohawk Power Corporation (Niagara Mohawk) which

provides for the sale of up to 600,000 megawatt-hours per year over a 40-year term; and

(c) a 28 December 1987 steam contract between G.A.S. Orange and Syracuse University which provides for the construction of steam generating facilities and the supply of steam over a 40-year term.

The above-noted gas and electrical sales agreements have been assigned to G.A.S. Orange, a wholly-owned affiliate of Gas Alternative. G.A.S. Orange was created specifically for this project to ensure that none of Gas Alternative's other endeavours would affect the project. The steam sale contract between G.A.S. Orange and Syracuse University is representative of the steam contracts which have been executed with four other customers.

The gas sales agreement is unique in that, under the terms of the contract, G.A.S. Orange will make a lump-sum up-front payment of approximately $U.S. 70 million in payment for the total quantity of gas to be exported under the contract. The buyer will also reimburse Canadian Hunter for all Canadian transportation and royalty costs incurred. In addition, the buyer will pay an adjustable fee of $U.S. 0.30 per MMBtu to cover production, gathering and processing costs incurred by Canadian Hunter. This fee will escalate each year until the 16th year at a rate equal to the rate of increase of the U.S. GNP Implicit Price Deflator. During the 16th year the fee will be adjusted upwards, if required, to reflect Canadian Hunter's actual production, gathering and processing costs.

The Board has noted that the above unique pricing provisions of the gas sales agreement were largely predetermined by the market. The buyer testified that in order to finance the construction of the cogeneration facility, a high degree of certainty was required in gas cost. In New York State, utilities are required by law to pay cogenerating facilities the higher of the utilities avoided cost or a minimum floor price of 6 cents per kwh. Since neither the avoided cost nor the floor price have any relationship to the expected rate of growth in energy prices the parties had to come up with a unique method of pricing the gas. The prepayment for the gas combined with minimum revenue guaranteed by the contractual floor price provides for sufficient certainty to make the project acceptable to the institutions financing the project.

Another unique feature of the gas sales agreement is that it is not predicated on the basis of firm transportation. Although the intent of the parties is to secure firm transportation, the agreement does allow for interruptible transportation in the interim. In fact, the project sponsors had to demonstrate to the financing institution that the project was still viable even if firm transportation was not available over the life of the contract. Under the terms of the agreement, G.A.S. Orange will use alternate gas supplies when deliveries are interrupted, and Canadian Hunter will attempt to sell the undelivered gas elsewhere and forward the revenue to G.A.S. Orange.

Whether or not the gas is exported pursuant to firm or interruptible transportation arrangements, the buyer forfeits all rights and entitlements to gas not yet taken at the end of the 20-year term of the sales contract.

After the hearing Canadian Hunter filed an 18 August 1988 Amendment to the Gas Sales Contract as part of the record. These changes essentially confirmed testimony which had been adduced at the public hearing.

The Board has reviewed the Gas Sales Contract and amendment thereto and is satisfied with its form and content.

2.1.3.2 Gas Supply

Canadian Hunter, as agent and operator, holds the joint venture oil and gas assets of Noranda Inc. and Kerr Addison Mines Ltd. (Kerr Addison) in its name, and explores for, develops and produces natural gas, oil and natural gas liquids on behalf of the owners - Noranda Inc. and Kerr Addison.

Canadian Hunter provided estimates of the established reserves which it intends to use to meet the proposed export. The Board has analyzed the Applicant's supply and has prepared its own estimate of the Applicant's remaining gas reserves currently available for the proposed export. The comparison of these estimates is shown in Table 1.

Table 1
Comparison of Estimates of Remaining Marketable Gas Reserves [1]
($10^6 m^3$)

Canadian Hunter	3 669
NEB	2 366 [2]

1. as of Dec. 31, 1987
2. Does not include estimates of pools for which reservoir data were not submitted to NEB. The Applicant's estimate for these pools is 485 x $10^6 m^3$.

The Board's estimate of reserves is lower than the Applicant's estimate because of differences in the interpretation of pool size and net pay. There are also a number of pools for which data are currently not available or were not submitted and therefore estimates of those reserves could not be made.

The Board prepared its own estimate of deliverability associated with the Applicant's reserves currently available for the proposed export. The Board's projection suggests that deliverability will be adequate for the initial four years of the project whereas the Applicant's assessment indicates adequate deliverability for the first nine years. This difference in outlook is attributable to the discrepancy between the estimates of reserves as shown in Table 1.

The Board considered a number of factors in its assessment of gas supply including: the unique nature of the project; the up-front prepayment for the gas, Noranda's corporate guarantee and the penalties contained in the contract in the event that the Applicant is unable to supply the gas; the relatively small volume involved; the Alberta gas reserves which the Applicant intends to use to supply the project; the approximate 124 Bcf of gas in British Columbia which the Applicant said might be used to supplement reserves; and finally Canadian Hunter's reputation as an active explorer in Western Canada. During 1987 Canadian Hunter's exploration and development expenditures of approximately $Cdn. 110 million added about 117 Bcf to its proven reserves. Similar expenditures are anticipated this year.

Based on these factors, the Board is satisfied that adequate gas supplies will become available to meet the requirements of the Gas Sales Agreement.

2.1.3.3 Energy Removal Permit

The Applicant has applied to the Alberta Energy Resources Conservation Board (AERCB) for a 15-year removal permit with a term volume of approximately 3400 x $10^6 m^3$, the same as the term volume of the applied-for export licence. While Canadian Hunter was applying for a 20-year export licence it testified that the 15-year removal permit would be sufficient. Canadian Hunter will have to secure the appropriate removal permits before it can export the gas authorized under the licence.

2.1.3.4 Transportation Arrangements

Both NOVA and TransCanada have provided the Applicant with letters of intent to transport the gas. On the U.S. side, Tennessee has indicated its willingness to transport the gas and has entered into a Precedent Agreement with G.A.S. Orange.

Firm transportation of the gas will require the construction of facilities in both Canada and the United States. On the U.S. side, Tennessee has filed for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (FERC) for the construction of the necessary facilities (Docket No. CP88-173-000) as part of the open season proceedings. Docket No. CP88-173-000 involves the provision of firm transportation to three local distribution companies and eight cogeneration customers, including G.A.S. Orange. This docket known as the NORTRAN Project, has been designated by FERC as one of the remaining competitive projects to serve the U.S. northeast market. A recent development in the open season proceeding has been a joint settlement proposal between Tennessee and Iroquois. Under this proposal the export volumes would be transported on the Iroquois system.

The remaining transportation will be provided through 10.7 km. pipeline to be constructed by the buyer. The pipeline will transport the gas from an interconnection with Tennessee's system to the cogeneration facilities. State authorization for the construction of this pipeline is pending.

2.1.3.5 Financing Considerations and Regulatory Approvals

Financing of the cogeneration project will not proceed without the receipt of all necessary U.S. and Canadian permits and authorizations for the construction, operation and long-term gas supply for the facility. According to the Applicant, these U.S. and Canadian authorizations and permits were needed prior to 1 September 1988, as this was the latest date by which the parties could receive the last regulatory approvals in order to be able to complete the necessary financing package and commence construction before 1 November 1988. The Applicant's evidence was that if construction had not commenced by 1 November 1988 then G.A.S. Orange could lose its electrical sales contract with Niagara Mohawk. In addition, G.A.S. Orange would incur penalties with its general contractor.

The Applicant's witnesses testified that G.A.S. Orange had applied for all environmental and operating permits required to construct and operate the facility and that hearings for these applications had been held. All of these approvals are expected to be received before 1 September 1988. As well, G.A.S. Orange had applied for a permit to build a connecting pipeline from Tennessee's system to the cogeneration facility and approval of this permit is expected during August. G.A.S. Orange wants to construct its own connecting facility so as to improve the project economics, but if the required authorizations to build the 10.7 km connecting pipeline are not obtained, G.A.S. Orange could simply contract with the local utility for gas transportation to the cogeneration facility.

The Applicant also stated that G.A.S. Orange had applied to the Economic Regulatory Agency (ERA) for import authorization and was expecting this authorization shortly.

2.1.3.6 Cost-Benefit Analysis

The Applicant submitted a social cost-benefit analysis of the proposed gas export sale. The study was intended to evaluate the economic desirability of the export project from the perspective of Canada as a whole.

Table 2 shows the results submitted by Canadian Hunter of the cost-benefit analysis performed using a real discount rate of 8 percent. Revenues from the export project include export and by-product revenues. Export revenues are the total of all payments by the U.S. importer to Canadian Hunter, including the lump sum payment, royalties, production costs, and transmission costs incurred in Canada. The Applicant estimated by-product revenues using Alberta average yields for the individual by-products, and price projections for each. The Applicant submitted that the export price track implied by the contract is between the Board's (1986) high and low price projections.

The exported gas will be used to generate steam and electricity. The Applicant testified that the electricity generated in the United States as a result of the project should not impact on Canadian electricity exports to the United States, because Canadian electricity exports are not constrained by United States demand.

Canadian Hunter analysed the sensitivity of net benefits to several factors. For example, net benefits to Canada were estimated to be $150.6 million and $116.3 million (in 1988 dollars, discounted to 1988) at real discount rates of 6 and 10 percent respectively.

The Applicant submitted that the proposed export project results in substantial net economic benefits to Canada. No intervenor disputed the reasonableness of the cost-benefit analysis submitted by the Applicant.

The Board recognizes that there is some risk in this type of export contract if natural gas prices were to increase rapidly in the future. This risk, however, must be balanced against the possibility of continued low gas prices, and the benefits from the up front lump-sum payment.

Table 2
Cost-Benefit Analysis of
Canadian Hunter Application
From a Canadian Perspective: 8% Discount Rate
(in millions of 1988 dollars; discounted to 1988)

Benefits	
Revenues from Gas Export Sales and Associated by-Products	297.4
Labour and Sales Tax Adjustments	3.2
Total	300.6
Costs	
Production Costs	43.7
Transmission Costs	37.6
User Cost	95.8
Total	177.1
Net Social Benefit	123.5

Chapter 3
Disposition

The Board has decided to issue a gas export licence to Canadian Hunter. Governor in Council approval of the new licence is required before this decision comes into effect. The new licence will include the requested terms and conditions with respect to maximum daily, annual and term quantities and the licence term. The Board has also decided to include in the licence a condition which will require that exports under the licence must commence on or before 1 November 1993. Should this condition not be met, the licence will terminate. Appendix I contains the terms and conditions of the new licence.

The Board's decision took into account a number of factors. Of particular note was the absence of complaints or opposition to the proposed export. In addition, Canadian Hunter filed an Export Impact Assessment which concluded that given the small size of the proposed export its potential impact on total production, gas prices and Canadian consumption patterns would be negligible.

With regard to the public interest determination, the Board has noted the unique nature of the Canadian Hunter/G.A.S. Orange gas export project. The gas sales contract provides for the up-front payment of approximately $U.S. 70 million by the buyer, an adjustable $U.S. 0.30 per MMBtu fee to cover production, gathering and processing costs and the reimbursement of all Canadian transportation and royalty charges as incurred. This prepayment for the gas, Noranda's corporate guarantee, and the default provisions within the contract which commit Noranda Inc. to substantial penalties in the event it is unable to deliver the gas, all provide significant incentive for Canadian Hunter to fulfill its obligations. Although the Board's estimates of reserves and deliverability are substantially lower than the Applicant's, the Board is satisfied given Canadian Hunter's reputation as an active explorer, Noranda's corporate guarantee, the financial commitments under the contract, the small volumes involved, and the existence of the back-up B.C. reserves, that adequate gas supply will become available to meet the requirements of the Gas Sales Agreement.

Finally, the Board is of the view that based on the benefit-cost analysis performed by Canadian Hunter, and the Board's own analysis, it is highly likely that the export project will yield significant net benefit to Canada.

J.-G. Fredette
Presiding Member

J.R. Jenkins
Member

R.B. Horner
Member

Ottawa, Canada
August 1988

Appendix I

Terms and Conditions of the Licence to be Issued to Canadian Hunter

1. The term of this Licence shall be for the period commencing on 1 November 1990, and ending on 31 October 1993, at which time, provided that exports have commenced hereunder at Niagara Falls or Iroquois, Ontario, the term shall extend to 31 October 2010.

2. The quantity of gas that may be exported under the authority of this Licence shall not exceed:

   (a) 845 000 cubic metres in any one day;

   (b) 254 000 000 cubic metres in any consecutive twelve-month period ending on 31 October; or

   (c) 3 381 000 000 cubic metres during the term of this Licence.

3. The amount the Licensee may export in any 24-hour period under the authority of this Licence may exceed the daily limitation imposed in condition 2 by two percent.

4. Gas exported under the authority of this Licence shall be delivered to the points of export near Niagara Falls, or Iroquois, Ontario.